

Patrik Karlsson

CONTACT Department of Economics, Lund University
INFORMATION P.O. Box 7082, 220 07 Lund, Sweden

Office: +46 (0)46-222 9549
E-mail: patrik.karlsson@nek.lu.se

DATE OF BIRTH January 12, 1985, Malmö, Sweden.

EDUCATION **Lund University, Sweden.**

PhD Candidate in Financial Economics **Sep 2009 - Present**

MSc + BSc in Business and Economics **Sep 2006 - June 2009**

MSc in Engineering, Computer Science and Engineering **Aug 2004 - June 2009**

ACADEMIC **University of Technology Sydney, Australia.**

EXPERIENCE

Oct 2011 - Jan 2012

Visiting PhD Student at the Quantitative Finance Research Centre

"Calibrating and Modelling a Hybrid Commodity Interest rate Market Model with Smile and Skew". Joint work with Prof. Erik Schlogl and Dr. Kay Pilz.

We construct a joint model with time-dependent local and stochastic volatility to incorporate the commodity price and interest rate risk analogously to the multi-currency LIBOR Market Model (LMM). We present a method for calibrating the model to interest rate and commodity skews and smiles.

ETH Zurich, Switzerland.

Feb 2010 - Sep 2010

Visiting PhD Student at the Department of Mathematics

Graduate Course work in Brownian Motions and Stochastic Calculus, Continuous Time Quantitative Finance, Financial Engineering, Numerical Methods for Quantitative Finance (Finite Element Methods) and Quantitative Risk Management.

California Institute of Technology, USA.

June 2009 - Aug 2009

Summer Undergraduate Research Fellowship

Developed and Implemented a Stable Matching algorithm.

Lund University, Sweden.

Teaching Assistant at Department of Economics

Sep 2009 - Present

NEKM41: Financial Valuation and Risk Management, Graduate. Spring 2011.

NEKA11: Financial Economics, Undergraduate. Autumn 2009/2010. Spring 2011.

NEKA11: Microeconomic Theory with Applications, Undergraduate. Autumn 2010/2011, Spring 2011.

Teaching Assistant at Centre for Mathematical Science

Sep 2008 - Sep 2011

FMS170: Valuation of Derivative Assets, Graduate. Spring 2009/2010, Autumn 2011.

FMS012: Mathematical Statistics, Basic Course, Undergraduate. Autumn 2009.

FMF10: Stationary Stochastic Processes, Undergraduate. Autumn 2009.

FMS032: Mathematical Statistics, Basic Course, Undergraduate. Autumn 2008.

Teaching Assistant at Department of Computer Science

Sep 2007 - May 2009

EDA501: Programming, First Course, Undergraduate. Spring 2008/2009.

EDAA01: Programming, Second Course, Undergraduate. Autumn 2008.

EDA016: Programming, First Course, Undergraduate. Autumn 2007.

PROFESSIONAL **Handelsbanken, Stockholm, Sweden.**

EXPERIENCE

Modelling Exotic Equity Derivatives/Structured Products in C++ and SciComp.

Modelling Operational Risk and Estimating required Basel II Economic Capital in Matlab.

Valuating VaR models used by Handelsbanken New York, US.

Nordea Markets, Copenhagen, Denmark.

Jan 2009 - June 2009

Master's Thesis in Group Quantitative Research

Modelling Foreign Exchange Basket Options. Numerical Approximations and Models with Skew.

WORKSHOPS Quantitative Methods in Finance 2011 Practitioner Workshops. A two-day workshop on "LIBOR Market Models and Beyond," presented by Professor Mark Joshi, Hilton Hotel, Sydney, Dec 12-13, 2011.

 QFRC Occasional Lecture: "Calibrating the Volatility Skew" (LIBOR Market Models), presented by Dr. Alan Brace, National Australia Bank, University of Technology Sydney, Australia, Nov 17, Dec 1, 2011.

 "Stochastic Processes in Financial Applications" presented by Professor Dilip B. Madan, Aarhus School of Business, Denmark. Jan 19-20, 2010.

CONFERENCES Quantitative Methods in Finance 2011, Hilton Hotel, Sydney, Dec 14-17, 2011.

 "Option Pricing with Time-changed Self-Decomposable Stochastic Processes". Presented at the NFN Research Workshop in Finance. Hanken School of Economics, Helsinki, Finland, May 5-6, 2011.

 "FX Basket Options - Approximation and Smile Prices". Presented at the 5th annual U21 Undergraduate Research Conference, University of Glasgow, UK, Oct 15-20, 2009.

PROGRAMMING C++ (Boost, CUDA, GSL, QuantLib), Java, MATLAB, MySQL, SciComp, VHDL.

SKILLS **Specialties:** Finite Difference/Element, Fourier Integration and Monte Carlo Methods

LANGUAGES Swedish (Mother Tongue), English (Fluent).

SPORTS Represented the Swedish National Junior Team in Swimming.